

REMARKS

By this Amendment, claims 17 and 18 have been cancelled without prejudice or disclaimer; claims 1, 4, 5, 11, 16, 19 and 20 have been amended; and new claims 21-24 have been added, leaving claims 1, 3-13, 15, 16 and 19-24 pending in the application. Claims 15 and 16 stand withdrawn from consideration. No new matter has been added by the amendments. Favorable consideration and allowance are respectfully requested in view of the above amendments and the following remarks.

Personal Interview

Applicant thanks Examiner Augenbaugh for the courtesies extended to their undersigned representative during the personal interview conducted on August 14, 2007. Applicant's separate record of the substance of the interview is included in the following remarks.

Claims 15 and 16

Claim 15 has been amended to recite a method of producing the multi-layer hose according to claim 1. As set forth in MPEP § 821.04(b), where claims directed to a product and to a process of making the product are presented in the same application, if applicant elects claims directed to a product, which is subsequently found allowable, withdrawn process claims that depend from an allowable product claim will be considered for rejoinder. Upon rejoinder of claims directed to a previously non-elected process, the restriction requirement between the elected

product and rejoined process will be withdrawn. Accordingly, once claim 1 is found allowable, claims 15 and 16, which depend from Claim 1, should be rejoined.

Rejections Under 35 U.S.C. § 103

A. Claims 1, 3, 4, 19 and 20 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,843,027 to Stone et al. ("Stone") in view of U.S. Patent No. 6,086,942 to Carden, Jr. et al. ("Carden"). The rejection is respectfully traversed.

Amended claim 1 recites a multi-layer hose constructed to allow tracing back of individual process steps performed during manufacturing of the house, the hose comprising an opaque, extrudable first layer; at least one opaque, extrudable second layer connected to the first layer; and more than one marking section, each marking section comprising more than one letter and/or more than one number arranged in an order that indicates a characteristic of the hose, the marking sections being provided in longitudinally spaced relationship with one another in a recurring mode of arrangement, the marking sections being arranged between the first layer and the at least one second layer and adapted to be read making use of X rays to determine the characteristic of the hose to thereby allow tracing back of individual process steps performed during manufacturing of the hose. Support for the amendments to claim 1 can be found in the specification at, for example, the paragraph bridging pages 1 to 2, and page 4, lines 10-13.

The Office asserts that the "actual form of the markings does not define or contribute to the function of the device [i.e., multi-layer hose]." The Office further asserts that "the recitation 'each marking section comprising more than one letter and/or more than one number' does not recite a new and unobvious functional

relationship between the printed matter and the substrate," and therefore was not given patentable weight. The Office referenced the decisions of *In re Gulack*, 217 USPQ 401 (Fed. Cir. 1983) and *In re Ngai*, 70 USPQ2d 1862 (Fed. Cir. 2004). These decisions were discussed during the personal interview.

The court stated in *Gulack*:

Differences between an invention and the prior art cited against it cannot be ignored merely because those differences reside in the content of the printed matter. Under section 103, the board cannot dissect a claim, excise the printed matter from it, and declare the remaining portion of the mutilated claim to be unpatentable. The claim must be read as a whole.

Gulack, 217 USPQ at 403 (Footnotes omitted.)

According to *Gulack*, the claimed marking sections must be considered by the Office in the determination of the patentability of claim 1.

The court further stated In *Gulack* that "the critical question is whether there exists any new and unobvious functional relationship between the printed matter and the substrate [which supported the printed matter]." *Gulack*, 217 USPQ at 404. In *Gulack*, the court considered the patentability of an educational and recreational mathematical device that included an endless band (i.e., the ends of the band were fastened together) and a plurality of individual digits imprinted on the band. The court found that the claims required a particular sequence of digits to be displayed on the outside of the band, and that these digits were related to the band in two ways: (1) the band supported the digits, and (2) there was an endless sequence of digits, with each digit residing in a unique position with respect to every other digit in an endless loop. *Gulack*, 217 USPQ at 405. The court concluded that there was a functional relationship between the printed matter and the band and reversed the obviousness rejection made by the Board. *Id.*

The *Ngai* court distinguished the fact situation in that case from the facts addressed by the court in *Gulack* as follows:

In *Gulack*, the printed matter would not achieve its educational purposes without the band, and the band without the printed matter would similarly be unable to produce the desired result.

Ngai, 70 USPQ2d at 1864.

In *Ngai*, the court further stated regarding *Gulack* that "[t]here the printed matter and the circularity of the band were interrelated, so as to produce a new product useful for 'education and recreational mathematical' purposes.'" *Ngai*, 70 USPQ2d at 1864.

Applicant submits that claim 1 also recites a new and unobvious functional relationship between the marking sections and the first and second layers of the hose. The markings sections would not achieve their purposes without the first and second layers, and the first and second layers, without the printed matter, would similarly be unable to produce the desired result. The function of the marking sections is to indicate a characteristic about the hose, such as a date or production number (claim 19) or material (claim 20) of the hose. To achieve this function, the letters and/or numbers are arranged in a particular order between the first and second layers to represent this characteristic. The letters and/or numbers would not be able to achieve their informational purpose without the layers supporting them. Similarly, the hose without the printed matter would be unable to produce the desired result, i.e., a new hose construction that allows tracing back of individual process steps performed during manufacturing of the hose. Analogous to the fact situation in *Gulack*, where the markings and band were interrelated to produce the educational

product, the marking sections of the claimed hose are interrelated to the first and second layers to produce a new and unobvious product.

Applicant submits that the combination of Stone and Carden does not suggest a multi-layer hose constructed to allow tracing back of individual process steps performed during manufacturing of the hose, as recited in claim 1. Figure 1 of Stone shows a balloon sheath 40 mounted on a tubular body 12 between a manifold 18 and balloon 24. The balloon sheath 40 can include "marker bands" located between the two layers 42, 44 of the sheath (column 5, lines 43-50). Stone does not suggest that the "marker bands" each include more than one letter and/or more than one number, much less letters and/or numbers arranged in an order that indicates a characteristic of the balloon sheath. In Stone, the "marker bands" mark the location of the ends of the balloon sheath.

The marking sections recited in claim 1 are provided in a longitudinally spaced relationship with one another in a recurring mode of arrangement. The claimed arrangement of the marking sections, which each comprise more than one letter and/or more than one number, allows tracing back after the hose has been separated into several subsections. Stone is unrelated to this purpose.

Carden provides no reason to modify Stone's balloon sheath, which forms part of the stent deployment and/or sizing catheter 10, to produce a multi-layer hose constructed to allow tracing back of individual process steps performed during manufacturing of the house, as recited in claim 1. Carden also does not disclose or suggest "marking sections" that comprise more than one letter and/or more than one number. Thus, Carden provides no reason to modify Stone's balloon sheath to include marking sections comprising more than one letter and/or more than one

number, much less letters and/or numbers arranged in an order that indicates a characteristic of the balloon sheath.

Accordingly, because the combination of Stone and Carden does not suggest a multi-layer hose having every feature of claim 1, claim 1 is patentable.

Claim 19 depends from claim 1 and recites that "the characteristic of the hose indicated by the marking sections is a date or a production number." Claim 20 depends from claim 1 and recites that "the characteristic of the hose indicated by the marking sections is a material." These features are also not suggested by the applied references.

Claim 4, as amended, recites a multi-layer fuel hose for a motor vehicle constructed to allow tracing back of individual process steps performed during manufacturing of the house. The hose comprises an opaque, extruded inner layer made of rubber; an opaque, first outer layer made of rubber extruded on the inner layer; and more than one first marking section arranged between the inner layer and the first outer layer in a longitudinally spaced relationship with one another in a recurring mode of arrangement, each first marking section comprising more than one letter and/or more than one number arranged in an order that indicates a characteristic of the hose and adapted to be read making use of X rays to determine the characteristic of the hose to thereby allow tracing back of individual process steps performed during manufacturing of the hose (emphasis added).

The recited rubber material provides the fuel hose with desirable physical and mechanical properties for use in a motor vehicle. Support for the recited fuel hose for a vehicle can be found at page 2, lines 5-6, of the specification.

Applicant submits that the applied references also do not suggest the fuel hose for a motor vehicle recited in claim 4. For example, the applied references do not suggest that a fuel hose including the claimed inner and outer rubber layers and marking sections would be desirable for replacing the inflatable balloon sheath 40 that is specifically designed to provide an unrelated function in Stone's catheter 10.

Therefore, withdrawal of this rejection is respectfully requested.

B. Claim 5 was rejected under 35 U.S.C. § 103(a) over Stone in view of U.S. Patent No. 5,576,072 to Hostettler et al. ("Hostettler"). The rejection is respectfully traversed.

Claim 5 depends from claim 1. Hostettler was cited in the rejection with respect to the compound recited in claim 5. However, the applied references do not provide a reason to modify Stone's balloon sheath 40 of the catheter 10 to result in the multi-layer hose of claim 1. Thus, claim 5 is patentable. Therefore, withdrawal of the rejection of claim 5 is respectfully requested.

C. Claim 6 and 11-13 were rejected under 35 U.S.C. § 103(a) over Stone in view of U.S. Patent No. 6,508,784 to Shu ("Shu"). The rejection is respectfully traversed.

Claim 6 depends from claim 1. Shu was cited in the rejection with respect to the compound recited in claim 6. However, the applied references do not provide a reason to modify Stone's balloon sheath 40 of the catheter 10 to result in the multi-layer hose of claim 1. Thus, claims 6 and 11-13 are patentable. Therefore, withdrawal of the rejection of these claims is respectfully requested.

D. Claims 7 and 9 were rejected under U.S.C. § 103(a) over Stone in view of Shu and Carden, and further in view of U.S. Patent No. 6,471,758 to Kelderman et al. ("Kelderman"). The rejection is respectfully traversed.

Shu, Carden and Kelderman were cited in the rejection with respect to the compound recited in claims 7 and 9. However, Applicant submits that the applied references do not provide a reason to modify Stone's balloon sheath 40 of the catheter 10 to result in the multi-layer hose of claim 1. Thus, claims 7 and 9 are patentable. Therefore, withdrawal of the rejection of these claims is respectfully requested.

E. Claim 8 was rejected under U.S.C. § 103(a) over Stone in view of Shu and Carden, and further in view of U.S. Patent No. 6,375,634 to Carroll ("Carroll"). The rejection is respectfully traversed.

Shu, Carden and Carroll were cited with respect to the compound recited in claim 8. However, Applicant submits that the applied references do not provide a reason to modify Stone's balloon sheath 40 of the catheter 10 to result in the multi-layer hose of claim 1. Thus, claim 8 is patentable. Therefore, withdrawal of the rejection of claim 8 is respectfully requested.

F. Claim 10 was rejected under 35 U.S.C. § 103(a) over Stone in view of Shu and Carden, and further in view of U.S. Patent No. 6,054,505 to Gundlach et al. ("Gundlach"). The rejection is respectfully traversed.

Shu, Carden and Gundlach were cited with respect to the ink composition recited in claim 10. However, Applicant submits that the applied references do not provide a reason to modify Stone's balloon sheath 40 of the catheter 10 to result in the multi-layer hose of claim 1. Thus, claim 10 is patentable. Therefore, withdrawal of the rejection of claim 10 is respectfully requested.

New Claims

New claim 21, which depends from claim 4, recites that the fuel hose further comprises an opaque, second outer layer made of rubber extruded on the inner layer and; and more than one second marking section arranged between the first outer layer and the second outer layer in a longitudinally spaced relationship with one another in a recurring mode of arrangement, each second marking section comprising more than one letter and/or more than one number and adapted to be read making use of X rays. Support for the features of claim 21 can be found, for example, at page 6, lines 1-3, of the specification.

New claim 22 also depends from claim 4.

New independent claim 23 recites a multi-layer fuel hose for a motor vehicle constructed to allow tracing back of individual process steps performed during manufacturing of the hose, the hose consisting of an opaque, extruded inner layer; an opaque, outer layer extruded on the inner layer; and more than one marking section arranged between the inner layer and the outer layer in a longitudinally spaced relationship with one another in a recurring mode of arrangement, each marking section comprising more than one letter and/or more than one number arranged in an order that indicates a characteristic of the hose and adapted to be

read making use of X rays to determine the characteristic of the hose to thereby allow tracing back of individual process steps performed during manufacturing of the hose.

In contrast, for example, Stone's balloon sheath of the catheter 10 includes additional elements, e.g., the push wire 50 and balloon 24 shown in Figure 3 and 4, to be able to provide its required functions in the catheter 10.

Claim 24 depends from claim 23 and recites that the inner layer and outer layer are made of rubber.

Claims 21-24 are also patentable.

Conclusion

For the foregoing reasons, allowance of the application is respectfully requested. If there are any questions concerning this response, Applicant's undersigned representative can be reached at the number below.

Respectfully submitted,

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